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EPA

23 October 1989

Memorandum

TO: Neil Thompson, Project Manager, Superfund Branch

FROM: Michael Schlender, RQAMO

RE: Review of Colbert Landfill RD/RA Draft Quality Assurance Project Plan - Revision 1.0

As per your request, the RQAMO has reviewed the Draft Quality Assurance Project Plan for the Colbert Landfill Site RD/RA, prepared by Landau Associates, Inc. This revision was intended to address comments from the submission of the original QAPjP. My response to specific document revisions are presented below in **bold type** following the original comment.

General Comments

Comment No. 1. The plan lacks direction in terms of data quality objectives (DQO). For example, (as best as I can assess), the DQO's for this project are presented in Sections 1 and 3. In part, these objectives are for further characterization, the design and implementation of a pilot treatment system, to evaluate the pilot treatment study, and to design and implement a final ground water treatment system. These are not DQO's, and it difficult to know if the sampling and analysis they are proposing for this project will meet the need of the users. This area needs considerable work. Once the DQO's have been defined, I would expect changes in other portions of the Plan.

RQAMO Response: **The authors of the Plan have made some effort to revise sections pertaining to the DQO's of the project. They have done this by listing specific requirements for precision, accuracy, completeness, representativeness, and comparability. This revision seems adequate for the scope of the data collection activities intended for this project.**

The air monitoring is fairly well described in terms of sample collection. However, issues such as where or when samples should be collected to meet the objectives of the project are completely absent. Other more detailed issues regarding the air sampling are presented below.

RQAMO Response: **Plan revision adequate.**

No laboratory has been identified in this plan. It would be useful to have a Lab QA Plan to review with this QAPjP in order to assess the quality assurance protocols used by the receiving lab.

RQAMO Response: **Plan revision adequate.**

Section 4.1.7 Filling Sample Bottles. Vial for VOA should not be refilled as stated in text. If bubbles are present in the sample collected, the sampler should replace the bottle and perform the sample collection again.

RQAMO Response: **Split sampling from an on-site audit would clear up this issue.**

Section 6.1 Laboratory Instruments. The opening paragraph describes the lab calibration requirements as being the USEPA CLP Program Statements of Work (SOW). This seems to only cover the calibration issues, what requirements are set forth for the lab concerning performance?

RQAMO Response: **Plan revision adequate.**

Section 7.0, Page 1., Analytical Procedures. In the second paragraph the text specifies "QC checks and decision criteria" for quality control requirements. The analytical method or CLP procedures and guidelines are identified as this criteria. It should clear which criteria applies to the assessment of the data produced.

If CLP criteria will be used, please identify those sections from the SOW referenced in Section 6.0. If the SW-846 Method will be followed then clearly state the method will be the review or assessment criteria.

Section 7.0, Table QA-7.1. The table lists the detection limit of Methylene Chloride is listed as "dependant on lab background levels". This detection limit estimation is not acceptable for at least two reasons; one, methylene chloride is a target compound based on RI information and was known to be disposed of at the landfill, and two, even if the lab has a background problem the lab does not determine the requirements for the sampling and analysis.

RQAMO Response: **Plan revision adequate.**

Section 13.0 Corrective Actions. This section describes what corrective actions may be needed for both field and lab operations. The field corrective action requirements are limited in scope and

fail to incorporate any review or oversight role from outside parties in the event of a major field plan revision.

The laboratory corrective actions are confusing. Apparently the corrective actions will be based on "old" (1986, 1987), SOW's and the plan includes two pages of quality control requirements based on the SOW's listed as corrective action procedures. These are not corrective actions, they are methods which could be used to assess whether corrective actions should be taken. Furthermore, Method 8010 gas chromatographic based analysis has ever been included in the current SOW's or even the old SOW's listed in the plan. Therefore, I am confused how the SOW's will be applied to the data from this project, how the data will be assessed, or what corrective actions will be taken.

RQAMO Response: **Plan revision adequate.**

Section 9.1.6 Lab Matrix Spike Duplicate. The lab duplicate spike guidelines from the CLP SOW's indicated do not include parameters such as TOX, sulfides, nitrate, and chloride. The SOW's indicated are not designed for Methods 8010.

RQAMO Response: **Plan revision adequate.**

Section 9.1.8 Lab Control Standard. Please identify where LCS will be used in accordance with SOW's and Methods cited.

RQAMO Response: **Plan revision adequate.**

Section 9.1.3 Field Transfer Blank. Which parameters will be associated with this blank?

RQAMO Response: **Plan revision adequate.**

Section 9.1.4 Blind field Duplicate. How will the samples be split, in sequence?, physically?.

RQAMO Response: **Plan revision adequate.**

Section 9.1.5 Lab Matrix Spike. Why not have a duplicate spike for inorganics parameters to assess some degree of precision for the determination of accuracy.

How is a spike for hardness performed?.

RQAMO Response: **Plan revision adequate.**

Page 4., Revision 1.0 QAPjP Colbert Landfill.

Section 10, Page 1. Laboratory Audit. Laboratory Audit should be before the samples are submitted to verify the lab can perform the work and avoid any loss of sensitive samples such as those intended for VOA.

RQAMO Response: **The plan still calls for an audit to be performed near the end of the project. Since the lab has not been identified and performance on critical parameters such as vinyl chloride may be an issue, a lab audit following sample analysis would be less useful.**

Section 7.0 Analytical Procedures. The plan identifies CLP and SOW requirements for assessment of the data produced by the lab. However, the method intended for volatile organics analysis is not consistent with the CLP or the SOW.

RQAMO Response: **This area of the plan has been revised, however, the detection limits listed in the DQO section are well within the range of USEPA Method 524. Using this GC/MS method would allow confirmation of the presence of the compounds of interest.**

The method for air analysis is not an EPA Method. As indicated in Table QA-7.2 on page 3, of Section 7.0, the air method will be NIOSH Method 1003.

RQAMO Response: **Plan revision adequate.**

Except for manganese and Iron, the inorganics parameters indicated for groundwater sampling are included in the CLP SOW's.

RQAMO Response: **Plan revision adequate.**

Please specify what would be "appropriate" for the anticipated data users concerning data validation to allow the analytical procedures used by the laboratory to be modified. Any review of deviations and proposed methods shall be in accordance with requirements set forth in EPA 530 SW-87-008 TEST METHOD EQUIVALENCY PETITIONS guidance.

RQAMO Response: **Plan revision adequate.**

Table QA-4.2 Sampling and Handling Records. The Plan identifies the use of the Compendium of Superfund Field Operations Methods, as the source document for Table QA-4.2. The requirements under "Sample Label" records are not in accordance with the Superfund methods, i.e, the analytical lab shall not complete the sample label information for the samples collected.

RQAMO Response: **Plan revision adequate.**

Section 4.0, Table QA-4.1. Samples collected for VOA shall be preserved in accordance with Regional policy. For groundwater non-chlorinated sources, HCL is added to the sample to reduce the pH to less than 2.

RQAMO Response: **Plan revision adequate.**

Field Sampling Plan Comments

Section 3.0, Page 2. Second Paragraph. How will soil samples be scanned for organic vapors? Where will this information be recorded?

Who has defined the "Constituents of Concern"? It is obvious the "expected compounds" found in the Phase I samples will be as listed, since the lab is not reporting the full Method 8010 list.

The last paragraph on Page FS-3-2 states that "most" chemical analysis will be restricted to the "Constituents of Concern". Which chemical analysis will not be restricted?, and how much is a "limited number" for full Method 8010 constituents.

RQAMO Response: **Plan revision adequate.**

Table FS-3-1. Why is there so much uncertainty in the number of samples to be collected. For example, the ground water characterization will have between 19 and 59 samples, or the monitoring wells will have between 32 and 64 samples. Can the receiving lab schedule around this range of samples?

What about the details of quarterly sampling. Why is this left to one sentence in this table and not described elsewhere?

The reference to Method 8010 in the "Analysis" column is misleading. The list proposed for VOA work is much shorter than the full Method 8010 analysis.

RQAMO Response: **Plan revision adequate.**

It was noted in the QA Summary Table of Air Methods, Table QA-7.2, that three methods of analysis were to used on the air samples collected. Does this mean that more than one sample collection tube is required, or can the lab analyze all the components of Methods 1003, 1022, and 1005 with the sample tube extract?

Page 6., Revision 1.0 QAPjP Colbert Landfill.

RQAMO Response: **Plan revision adequate.**

Section 4.0, Page 8. Please state exactly how many QC samples will be collected.
Please identify the target parameters intended for duplicate samples.

RQAMO Response: **Plan revision adequate.**

Chain-of-Custody Record. A place for the sampler's signature should be added to the Landau Chain-of-Custody Record.

RQAMO Response: **Plan revision adequate.**

Section 4.2.2, Stripping Tower QC Samples. The frequency of the QC samples should be designed to provide a way of assessing the sampling of the unit. This section seems to simply describe the collection of QC samples as a requirement with no clear rational. In this case a trip blank and duplicate would be appropriate. Replicates of the duplicate could provide further information on lab precision if long term monitoring is expected.

RQAMO Response: **Plan revision adequate.**

Section 4.3.3 Air QC Samples. Duplicate air samples should be collected from down gradient and upgradient areas. Are the chain-of custody seal instructions appropriate for the air sampling task?

RQAMO Response: **Plan revision adequate.**

Please call me at 442-2111 if you require further assistance or need clarification of these issues regarding the QAPjP.